

**WEST**

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Print

L7: Entry 46 of 198

File: USPT

Feb 9, 1999

DOCUMENT-IDENTIFIER: US 5869172 A

TITLE: Internally-coated porous webs with controlled positioning of modifiers therein

## CLAIMS:

1. An article comprising a porous web that has been treated with a curable, shear thinnable, thixotropic polymeric material and with one or more modifiers, said material being at least partially cured, said modifiers being selectively positioned within the web, and at least some of the pores of said web being open.
2. The article of claim 1, wherein the modifier is selectively positioned substantially on one surface of the porous web.
4. The article of claim 1, wherein said modifier is selected from biocides, therapeutic agents, adhesive agents, processing agents, humidity-controlling agents, water repellents, ion-exchange agents, light-reflective agents, dyes and pigments, mildew-resistance agents, conductive agents, proteins, hand-altering agents, blood repellents, flexibility-inducing agents, light fastness-inducing agents, rot-resistant agents, stain-resistant agents, grease-resistant agents, ultraviolet-absorbing agent, fillers, flattening agents, electrical conductive agents, thermal conductive agents, flame retardants, antistatic agents, sub-micron particulate matter, electromagnetic shielding agents or radio frequency shielding agents.
8. The article of claim 4, wherein the hand-altering agent is selected from proteins or polyolefin fibers or fabrics.
10. The article of claim 4, wherein the flame retardant is selected from aluminum hydroxide, borax, tetrakis(hydroxymethyl)phosphonium chloride, potassium hexafluoro zirconate, potassium hexafluoro titanate, polyamides, polyimides, poly-parabanic acid, polyether sulfones, polyether ether ketones, polyetherimides, fluoroplastic resin films, polyphenylene sulfide, magnesium hydroxide, silicone-treated magnesium oxide, polybenzimidazole, flame-durable fibers, carbon or carbonizable compositions, retardant powder fillers, kaolin, gypsum, hydrated clay, polypropylene, polybutylene, metal carboxyl salts containing at least 6 carbon atoms, calcium compounds, barium atoms, strontium atoms, salts of inorganic acids, polyolefins, copolymers of polystyrene or polycarbonates, polyesters, polyamides, polycaprolactams, ionomers, polyurethanes, acrylonitrile-butadiene-styrene polymers, acetal resins, ethylene-vinylacetate resins, polymethylpentene, polyphenylene oxide, or polyphenylene oxide-polystyrene blends.
15. The article of claim 14, wherein the reactively available sites of the modifier are oriented outwardly from a surface of the porous web.

16. The article of claim 14, wherein said reactively available sites are capable of binding an agent.
22. The article of claim 21, wherein said biologically active modifier is selected from proteins, antibodies or enzymes.
24. The article of claim 23, wherein said biologically active agent is selected from proteins, antibodies or enzymes.
26. The article of claim 14, wherein said reactively available sites are capable of binding one or more proteins.
27. The article of claim 14, wherein said reactive sites are capable of binding one or more antibodies.
28. The article of claim 1, wherein said modifier promotes adhesion between the curable, thixotropic material containing one or more modifiers therein and the web.
29. The article of claim 1, wherein the modifier alters the surface chemistry of the article.
30. The article of claim 29, wherein said surface chemistry modifier is selected from the group consisting of fluorochemical compounds, proteins, anti-static agents, blood repellants, grease resistant agents.
35. The article of claim 1, wherein said thixotropic material comprises a polymer selected from polysiloxanes, polyurethanes, fluorosilicones, modified polyurethane silicones, modified silicone polyurethanes, acrylics or polytetrafluorethylene.
36. The article of claim 1, wherein said curable, thixotropic material containing one or more modifiers therein comprises a diluent.
46. The article of claim 1, wherein said curable, thixotropic material and one or more modifiers forms a discontinuous film.
47. A porous article comprising:
- a porous web having a plurality of web members with interstices therebetween;
- an at least partially cured material derived from a curable, shear thinnable, thixotropic polymeric material which forms:
- a thin film substantially encapsulating at least some of the web members leaving at least some of the interstices open, or
- a substantially continuous internal layer; and
- one or more modifiers, wherein said modifier(s) is selectively positioned within the web.
48. The article of claim 47, wherein the modifier is selectively positioned substantially on one surface of the porous web.
49. The article of claim 47, wherein the modifier is selectively positioned substantially within the encapsulated material.

50. The article of claim 47, wherein the modifier is selectively positioned substantially on one surface of the encapsulated material.
51. The article of claim 47, wherein said modifier(s) projects through the surface of the encapsulated material.
52. The article of claim 47, wherein the substantially continuous internal layer is positioned close to a surface of the porous web.
53. The article of claim 47, wherein the modifier is selectively positioned substantially on one surface of the substantially continuous internal layer.
56. The article of claim 47, wherein said modifier is selected from biocides, therapeutic agents, adhesive agents, processing agents, humidity-controlling agents, water repellents, ion-exchange agents, light-reflective agents, dyes and pigments, mildew-resistance agents, conductive agents, proteins, hand-altering agents, blood repellents, flexibility-inducing agents, light fastness-inducing agents, rot-resistant agents, stain-resistant agents, grease-resistant agents, ultraviolet-absorbing agents, fillers, flattening agents, electrical conductive agents, thermal conductive agents, flame retardants, antistatic agents, sub-micron particulate matter, electromagnetic shielding agents or radio frequency shielding agents.
60. The article of claim 56, wherein the hand-altering agent is selected from proteins or polyolefin fibers or fabrics.
62. The article of claim 56, wherein the flame retardant is selected from aluminum hydroxide, borax, tetrakis(hydroxymethyl)phosphonium chloride, potassium hexafluoro zirconate, potassium hexafluoro titanate, polyamides, polyimides, poly-parabanic acid, polyether sulfones, polyether ether ketones, polyetherimides, fluoroplastic resin films, polyphenylene sulfide, magnesium hydroxide, silicone-treated magnesium oxide, polybenzimidazole, flame-durable fibers, carbon or carbonizable compositions, retardant powder fillers, kaolin, gypsum, hydrated clay, polypropylene, polybutylene, metal carboxyl salts containing at least 6 carbon atoms, calcium compounds, barium atoms, strontium atoms, salts of inorganic acids, polyolefins, copolymers of polystyrene or polycarbonates, polyesters, polyamides, polycaprolactams, ionomers, polyurethanes, acrylonitrile-butadiene-styrene polymers, acetal resins, ethylene-vinylacetate resins, polymethylpentene, polyphenylene oxide, or polyphenylene oxide-polystyrene blends.
67. The article of claim 66, wherein the reactively available sites of the modifier are oriented outwardly from a surface of the porous web.
68. The article of claim 66, wherein said reactively available sites are capable of binding an agent.
74. The article of claim 73, wherein said biologically active modifier is selected from proteins, antibodies or enzymes.
76. The article of claim 75, wherein said biologically active agent is selected from proteins, antibodies or enzymes.
78. The article of claim 66, wherein said reactively available sites are capable of binding one or more proteins.
79. The article of claim 66, wherein said reactive sites are capable of binding one or more antibodies.

80. The article of claim 47, wherein said modifier promotes adhesion between the curable, shear thinnable thixotropic material containing one or more modifiers therein and the web.

81. The article of claim 47, wherein the modifier alters the surface chemistry of the article.

82. The article of claim 81, wherein said surface chemistry modifier is selected from the group consisting of fluorochemical compounds, proteins, anti-static agents, blood repellants or grease resistant agents.

87. The article of claim 47, wherein said thixotropic material comprises a polymer selected from polysiloxanes, polyurethanes, fluorosilicones, modified polyurethane silicones, modified silicone polyurethanes, acrylics or polytetrafluorethylene.

88. The article of claim 47, wherein said curable, thixotropic material containing one or more modifiers therein comprises a diluent.

98. The article of claim 47, wherein said curable, thixotropic material and one or more modifiers forms a discontinuous film.

102. The article of claim 1, wherein the modifier is localized on one surface of the porous web.

104. The article of claim 47, wherein the modifier is localized on one surface of the porous web.

105. The article of claim 47, wherein the modifier is localized within the encapsulated material.

106. The article of claim 47, wherein the modifier is localized on one surface of the encapsulated material.

107. The article of claim 106, wherein the modifier projects through the surface of the encapsulated material.

108. The article of claim 47, wherein the modifier is localized on one surface of the substantially continuous internal layer.

110. A method of controllably applying a combination of treating materials to a porous web, said method comprising:

applying a curable shear thinnable, thixotropic material to said porous web;

applying one or more modifiers to said porous web; and

subjecting said thixotropic material and modifier(s) to sufficient energy to cause the thixotropic material and modifier(s) to flow into the porous web, and selectively position said modifier(s) within the web, wherein at least some of the interstitial spaces of said web remain open.

111. The method according to claim 110 wherein said web is pretreated with said modifier, prior to applying said curable, thixotropic material thereto.

112. The method according to claim 110 wherein said modifier and said curable, thixotropic material are applied to said web in combination.

113. The method according to claim 110 wherein said modifier is applied to said web after applying said

curable, thixotropic material thereto.

114. The method according to claim 113 wherein said curable, thixotropic material is subjected to shear thinning conditions prior to application of said modifier to said web.

116. The method according to claim 110, wherein said thixotropic material and said modifier(s) are applied to the surface of the porous web.

118. The method according to claim 110, wherein said modifier alters the functional properties of said curable, thixotropic material containing one or more modifiers therein.

119. The method according to claim 110, wherein said modifier is selected from the group consisting of biocides, therapeutic agents, adhesive agents, humidity-controlling agents, water repellents, ion-exchange agents, light-reflective agents, dyes and pigments, mildew-resistant agents, conductive agents, proteins, hand-altering agents, blood repellents, flexibility-inducing agents, light fastness-inducing agents, rot-resistant agents, stain-resistant agents, grease-resistant agents, ultraviolet-absorbing agent, fillers, flattening agents, electrical conductive agents, thermal conductive agents, flame retardants, antistatic agents, processing agents, electromagnetic shielding agents, and radio frequency shielding agents.

121. The method according to claim 120, wherein said reactively available sites are capable of binding an agent.

122. The method according to claim 118, wherein said curable, thixotropic material comprises a diluent.

124. The method according to claim 122, where said energy is sufficient to drive the diluent from the curable, thixotropic material.

125. The method according to claim 110, wherein said porous web has a plurality of web members with interstices therebetween and wherein the curable, thixotropic material and one or more modifiers forms a thin film substantially encapsulating at least some of the web members.

126. The method according to claim 110, wherein said porous web has a plurality of web members with interstices therebetween and wherein the curable, thixotropic material and one or more modifiers forms a substantially continuous, internal layer.

127. The method according to claim 125, wherein the curable, thixotropic material and one or more modifiers further form a substantially continuous, internal layer.

129. The method according to claim 126, wherein the internal continuous layer is positioned close to the application surface of the porous web.

130. The method according to claim 126, wherein the internal continuous layer is positioned close to the surface opposing the application surface of the porous web.

131. The method according to claim 110, wherein the modifier is selectively positioned substantially on the application surface of the porous web.

132. The method according to claim 110, wherein the modifier is selectively positioned substantially on the surface opposing the application surface of the porous web.

133. The method according to claim 125, wherein the modifier is selectively positioned substantially within the encapsulated material.
134. The method according to claim 125, wherein the modifier is selectively positioned substantially on one surface of the encapsulated material.
135. The method according to claim 125, wherein said modifier(s) projects through the surface of the encapsulated material.
136. The method according to claim 126, wherein the modifier is selectively positioned substantially on one surface of the internal, continuous layer.
138. The method according to claim 120, wherein the reactive sites of the modifier are oriented outwardly from a surface of the porous web.
139. The method according to claim 110, wherein said energy is provided by subjecting the curable, thixotropic material containing one or more modifiers therein and web to shearing conditions.
140. The method according to claim 138, wherein the shearing conditions are provided by passing the web and curable, thixotropic material containing one or more modifiers therein in contact with one or more blades at a predetermined angle with respect to the blades.
143. The method according to claim 139, wherein the shearing conditions are provided by passing the web and curable, thixotropic material containing one or more modifiers therein through rollers at a controllable pressure.
144. The method according to claim 110, further comprising at least partially curing said thixotropic material.
145. The method according to claim 144, wherein the energy for curing is provided by thermal energy, electron beam, microwave, electromagnetic radiation or ultrasonic energy.
148. The method according to claim 110, wherein the modifier is localized on the application surface of the porous web.
149. The method according to claim 110, wherein the modifier is localized on the surface opposing the application surface of the porous web.
150. The method according to claim 125, wherein the modifier is localized within the encapsulated material.
151. The method according to claim 125, wherein the modifier is localized on the surface of the encapsulated material.
152. The method according to claim 125, wherein the modifier projects through the surface of the encapsulated material.
153. The method according to claim 126, wherein the modifier is localized on one surface of the internal continuous layer.

**WEST**

Generate Collection

L7: Entry 16 of 198

File: USPT

Jan 2, 2001

DOCUMENT-IDENTIFIER: US 6168857 B1

TITLE: Compositions and methods for manufacturing starch-based compositions

## CLAIMS:

1. A starch-bound sheet having a thickness less than about 1 cm and a density greater than about 0.5 g/cm<sup>3</sup> and comprising:
  - (a) a binding matrix including starch and an auxiliary water-dispersible organic polymer, wherein the starch has a concentration greater than about 5% by weight of total solids in the sheet;
  - (b) fibers substantially homogeneously dispersed throughout the starch-bound sheet; and
  - (c) an inorganic mineral filler included in a range from 0% to about 90% by weight of total solids in the sheet.
2. A sheet as defined in claim 1, wherein the starch has a concentration in a range from about 15% to about 75% by weight of total solids in the sheet.
3. A sheet as defined in claim 1, wherein the starch has a concentration in a range from about 30% to about 70% by weight of total solids in the sheet.
4. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer has a concentration less than about 70% by weight of solids in the sheet.
5. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer has a concentration in a range from about 0.1% to about 50% by weight of total solids in the sheet.
6. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer has a concentration in a range from about 0.5% to about 30% by weight of total solids in the sheet.
7. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer has a concentration in a range from about 1% to about 10% by weight of total solids in the sheet.
8. A sheet as defined in claim 1, wherein the starch has a gelation temperature and wherein the auxiliary water-dispersible organic polymer has a thermal precipitation temperature such that the gelation temperature of the starch is greater than the thermal precipitation temperature of the auxiliary water-dispersible organic polymer.
9. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer comprises a

cellulose-based material.

10. A sheet as defined in claim 9, wherein the cellulose-based material comprises a cellulosic ether.

12. A sheet as defined in claim 9, wherein the cellulose-based material comprises a cellulose ester.

14. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer comprises a polysaccharide material.

15. A sheet as defined in claim 14, wherein the polysaccharide material is selected from the group consisting of alginic acid, alginates, phycocolloids, agar, gum arabic, acacia gum, guar gum, carrageenan gum, furcellaran gum, locust bean gum, ghatti gum, psyllium gum, gum karaya, xanthan gum, quince gum, tamarind gum, okra derivatives, gum tragacanth, and mixtures or derivatives thereof.

16. A sheet as defined in claim 1, wherein the auxiliary water-dispersible organic polymer comprises a protein-based material.

17. A sheet as defined in claim 16, wherein the protein-based material is selected from the group consisting of prolamines, collagen, casein, grafted proteins, and mixtures or derivatives thereof.

24. A sheet as defined in claim 1, wherein the inorganic mineral filler has a concentration in a range from about 10% to about 80% by weight of total solids in the sheet.

25. A sheet as defined in claim 1, wherein the inorganic mineral filler has a concentration in a range from about 20% to about 70% by weight of total solids in the sheet.

26. A sheet as defined in claim 1, wherein the inorganic mineral filler has a concentration in a range from about 30% to about 60% by weight of total solids in the sheet.

28. A sheet as defined in claim 1, wherein the fibers have a concentration in a range from about 1% to about 50% by weight of total solids in the sheet.

29. A sheet as defined in claim 1, wherein the fibers have a concentration in a range from about 3% to about 30% by weight of total solids in the sheet.

30. A sheet as defined in claim 1, wherein the fibers have a concentration in a range from about 5% to about 20% by weight of total solids in the sheet.

37. A sheet as defined in claim 1, wherein the sheet has been fashioned into a container.

43. An inorganically filled starch-bound sheet having a thickness less than about 1 cm and comprising:

(a) a binding matrix including starch and an auxiliary water-dispersible organic polymer, wherein the starch has a concentration greater than about 5% by weight of solids in the sheet;

(b) fibers included in an amount in a range from about 1% to about 50% by weight of solids in the sheet, being substantially homogeneously dispersed throughout the binding matrix, having an average length greater than about 1.5 mm and having an average aspect ratio greater than about 10:1; and

(c) an inorganic mineral filler included in an amount greater than about 10% by weight of solids in the sheet.



44. An inorganically filled starch-bound sheet having a thickness less than about 1 cm and comprising:

(a) a binding matrix including starch and an auxiliary water-dispersible organic polymer, wherein the binding matrix has a concentration of at least about 20% by weight of solids in the sheet;

(b) optionally fibers substantially homogeneously dispersed throughout the binding matrix and having an aspect ratio greater than about 10:1; and

(c) an inorganic mineral filler included an amount greater than about 20% by weight of solids in the sheet.

45. A starch-bound sheet formed by passing a starch-based composition between at least one set of heated forming rollers, the starch-bound sheet having a thickness less than about 1 cm and a density greater than about 0.5 g/cm.<sup>sup.3</sup>, the starch-based composition comprising:

(a) water;

(b) substantially ungelatinized starch granules having a concentration greater than about 5% by weight of total solids in the starch-based composition, the starch granules having a gelation temperature;

(c) an auxiliary water-dispersible organic polymer having a thermal precipitation temperature that is less than the gelation temperature of the starch granules;

(d) an inorganic mineral filler having a concentration in a range from about 0% to about 90% by weight of total solids in the starch-based composition; and

(e) fibers substantially homogeneously dispersed throughout the starch-based composition.

54. A starch-bound sheet as defined in claim 53, wherein the at least one other sheet is selected from the group consisting of starch-bound sheets, organic polymer sheets, metal foil sheets, ionomer sheets, elastomeric sheets, plastic sheets, fibrous sheets, mats, paper sheets, cellophane sheets, nylon sheets, wax sheets, hydraulically settable sheets, highly inorganically filled sheets, metallized film sheets and combinations thereof.

56. A starch-bound sheet as defined in claim 45, wherein the fibers have a concentration in a range from about 1% to about 50% by weight of total solids in the starch-based composition.

57. An inorganically filled starch-bound sheet formed by passing a starch-based composition between at least one set of heated rollers, the starch-bound sheet having a thickness less than about 1 cm, the starch-based composition comprising:

(a) water;

(b) substantially ungelatinized starch granules having a gelation temperature;

(c) an auxiliary water-dispersible organic polymer having a thermal precipitation temperature that is less than the gelation temperature of the substantially ungelatinized starch granules, wherein the substantially ungelatinized starch granules and auxiliary water-dispersible organic polymer have a combined concentration greater than about 20% by weight of total solids in the starch-based composition;

(d) an inorganic mineral filler having a concentration greater than about 20% by weight of total solids in the starch-based composition; and

(e) optionally fibers substantially homogeneously dispersed throughout the starch-based composition.

58. An inorganically filled starch-bound sheet formed by passing a starch-based composition between at least one set of heated rollers, the starch-bound sheet having a thickness less than about 1 cm, the starch-based composition comprising:

(a) water;

(b) substantially ungelatinized starch granules having a concentration greater than about 5% by weight of total solids in the starch-based composition and having a gelation temperature;

(c) an auxiliary water-dispersible organic polymer having a thermal precipitation temperature that is less than the gelation temperature of the substantially ungelatinized starch granules;

(d) an inorganic mineral filler having a concentration greater than about 10% by weight of total solids in the starch-based composition; and

(e) fibers included in an amount in a range from about 1% to about 50% by weight of total solids in the starch-based composition, wherein the fibers are substantially homogeneously dispersed throughout the starch-based composition, have an average length greater than about 1.5 mm, and have an average aspect ratio greater than about 10:1.

59. A starch-bound sheet formed by a process comprising the steps of:

(a) providing a starch-based mixture including water, substantially ungelatinized starch granules, fibers, optionally an inorganic mineral filler, and an auxiliary water-dispersible organic polymer that is capable of reducing adhesion between the starch-based mixture and heated forming rollers upon gelatinization of the starch granules;

(b) forming the starch-based mixture into an initial green sheet by passing the mixture between at least one set of heated forming rollers having a temperature such that a portion of the auxiliary water-dispersible organic polymer forms a layer of reduced adhesion on the outer surfaces of the initial green sheet in order to prevent substantially adhesion of the starch-based mixture to the forming rollers upon gelatinization of the starch granules;

(c) heating the initial green sheet to cause at least a portion of the starch granules to become substantially gelatinized in order to form an intermediate green sheet; and

(d) removing at least a portion of the water from the intermediate green sheet by evaporation so as to form a substantially hardened starch-bound sheet having a binding matrix that includes a mixture of substantially dried starch and auxiliary water-dispersible organic polymer, wherein the starch-bound sheet has a thickness less than about 1 cm and a density greater than about 0.5 g/cm<sup>3</sup>, wherein the substantially dried starch has a concentration greater than about 5% by weight of total solids in the starch-bound sheet wherein the fibers are substantially homogeneously dispersed throughout the starch-bound sheet, and wherein the inorganic mineral filler has a concentration in a range from about 0% to about 90% by weight of total solids in the sheet.

the recognition mechanisms.

DRUG DESCRIPTORS:

\*binding protein--endogenous compound--ec; \*oligopeptide

MEDICAL DESCRIPTORS:

\***receptor** binding

article; high performance liquid chromatography; model; priority journal; stereochemistry

SECTION HEADINGS:

029 Clinical and Experimental Biochemistry

?t s7/3,kwic/25 26

>>>KWIC option is not available in file(s): 19

7/3,KWIC/25 (Item 3 from file: 654)

DIALOG(R) File 654:US PAT.FULL.

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02455514

Utility

MOLECULAR IMAGING

PATENT NO.: 5,453,199

ISSUED: September 26, 1995 (19950926)

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APPL. NO.: 8-247,134

FILED: May 20, 1994 (19940520)

This is a divisional of application(s) Ser. No. 07-860,450 filed on Mar. 30, 1992, now U.S. Pat. No. 5,372,719.

FULL TEXT: 1336 lines

OTHER REFERENCES

Andersson et al., "Enantiomeric Resolution on **Molecularly Imprinted Polymers** Prepared with only Non-Covalent and Non-Ionic Interactions", J. of Chromatography, 516:313-322...

...513 (1990) pp. 167-179.

Andersson, et al., "Enantiomeric Resolution of Amino Acid Derivatives on **Molecularly Imprinted Polymers** as Monitored by Potentiometric Measurements", J. of Chromatography, 516 (1990) pp. 323-331.

Bock et...

...Load Capacity", Chirality, 1:63-68 (1989).

Sellergren et al., "Highly Enantioselective and Substrate-Selective **Polymers** Obtained by **Molecular Imprinting** Utilizing Noncovalent Interactions. NMR and Chromatographic Studies on the Nature of Recognition", J. Am. Chem...

...and stereochemical interfit.

Reversible binding interactions between pairs of biological macromolecules such as ligands and **receptors** or antibodies and antigens have been exploited widely to construct systems taking advantage of the... such as natural or synthetic lymphokines, cytokines, hormones, growth factors, peptides, morphogens, enzymes, cofactors, ligands, **receptors**, antibodies and other valuable proteins and polypeptides. They may also be

designed to sorb analogs...

... and a surface currently is achieved using affinity interaction between, for example, antibodies and antigen, **receptors** and ligands, lectins and their **receptors**, avidin and biotin, etc. Both strength and specificity are important in such specific binding reactions...

... resort to the production, collection, and attachment of biological binding molecules such as antibodies or **receptors**. Binding to sorbent surfaces of the invention is selective, i.e., shows a preference for...

7/3,KWIC/26 (Item 4 from file: 654)

DIALOG(R)File 654:US PAT.FULLL.

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02365851

Utility

MOLECULAR IMAGING

[ Interaction between functional groups synthesized on surface of sorbent and groups on surface of macromolecule; reversible; affinity chromatography ]

PATENT NO.: 5,372,719

ISSUED: December 13, 1994 (19941213)

INVENTOR(s): Afeyan, Noubar B., Brookline, MA (Massachusetts), US (United States of America)  
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[Assignee Code(s): 25697]

APPL. NO.: 7-860,450

FILED: March 30, 1992 (19920330)

FULL TEXT: 1408 lines

#### OTHER REFERENCES

Andersson et al., "Enantiomeric Resolution on **Molecularly Imprinted Polymers** Prepared with only Non-Covalent and Non-Ionic Interactions", J. of Chromatography, 516:313-322...

...513 (1990) pp. 167-179.

Andersson, et al., "Enantiomeric Resolution of Amino Acid Derivatives on **Molecularly Imprinted Polymers** as Monitored by Potentiometric Measurements", J. of Chromatography, 516 (1990) pp. 323-331.

Bock et...

...Load Capacity", Chirality, 1:63-68 (1989).

Sellergren et al., "Highly Enantioselective and Substrate-Selective **Polymers** Obtained by **Molecular Imprinting** Utilizing Noncovalent Interactions. NMR and Chromatographic Studies on the Nature of Recognition", J. Am. Chem...

...and stereochemical interfit.

Reversible binding interactions between pairs of biological macromolecules such as ligands and **receptors** or antibodies and antigens have been exploited widely to construct systems taking advantage of the... such as natural or synthetic lymphokines, cytokines, hormones, growth factors, peptides, morphogens, enzymes, cofactors, ligands, **receptors**, antibodies and other valuable proteins and polypeptides. They may also be designed to sorb analogs...

... and a surface currently is achieved using affinity interaction between,

for example, antibodies and antigen, **receptors** and ligands, lectins and their **receptors** , avidin and biotin, etc. Both strength and specificity are important in such specific binding reactions...

... resort to the production, collection, and attachment of biological binding molecules such as antibodies or **receptors** . Binding to sorbent surfaces of the invention is selective, i.e., shows a prefer

# WEST Search History

DATE: Tuesday, March 12, 2002

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
	<i>DB=USPT; PLUR=YES; OP=AND</i>		
L1	termo\$.clm. or thermal\$.clm. or thermo-plastic or thermal-plastic.clm. or thermoplastic or thermalplastic	215819	L1
L2	termo\$.clm. or thermal\$.clm. or thermo-plastic or thermal-plastic.clm. or thermoplastic.clm. or thermalplastic.clm.	133129	L2
L3	L2 and (receptor or binder or partner or antibody or protein or platelet).clm.	6258	L3
L4	(tube or bead or device or apparatus or container or solid or material or well or dish or bottle or surface or plate).clm.	1928198	L4
L5	L4 and l3	4980	L5
L6	L5 and (assay or immunoassay or test or evaluate or evaluation or measure or determine or detect or detection or determining or measuring or binding).clm.	442	L6
L7	L6 and (\$plastic or thermoplastic or thermalplastic or thermo-plastic or thermal-plastic).clm.	198	L7
L8	l7 and (immunodiagnostic or immuno-diagnostic or immuno\$ or assay or immunoassay or immunoassay)	24	L8
L9	L8 and (disper\$ or even\$ or distribut\$ or internal\$ or homogenous\$ or homo-genous\$	6	L9

	or monolith\$ or mono-lith\$).clm.		
L10	L5 and (disper\$ or even\$ or distribut\$ or internal\$ or homogenous\$ or homo-genous\$ or monolith\$ or mono-lith\$).clm.	1675	L10
L11	L10 not l9	1669	L11
L12	L11 and (immunoassay or assay or enzyme or platelet or receptor or binder or binding or sbp or mip or diagnostic or measuring or mearsure or measured or determining or detecting or antibody).clm.	1610	L12
L13	L12 (disper\$ or even\$ or distribut\$ or internal\$ or homogenous\$ or homo-genous\$ or monolith\$ or mono-lith\$).clm. not l8	1610	L13
L14	L12 and (disper\$ or even\$ or distribut\$ or internal\$ or homogenous\$ or homo-genous\$ or monolith\$ or mono-lith\$).clm. not l8	1610	L14
L15	L14 and l4	1610	L15
L16	L15 and platelet\$.clm.	63	L16
L17	thermoplastic.clm. and platelet\$.clm.	83	L17
L18	l17 not l16	50	L18
L19	thermoplastic.clm. and (monolithic or mono-lithic).clm.	139	L19
L20	thermoplastic.clm. and (monolithic or mono-lithic).clm. and (assay or immunoassay).clm, ab,ti.	0	L20
L21	thermoplastic.clm. and (monolithic or mono-lithic).clm. and (assay or immunoassay)	1	L21

END OF SEARCH HISTORY

Set Items Description

?ds

Set	Items	Description
S1	1216	MOLECULAR? (2N) (IMPRINT? OR IMAGE?) (2N) POLYMER?
S2	756	RD (unique items)
S3	457	S2/1998:2001
S4	4	S2 AND PLATELET?
S5	299	S2 NOT S3
S6	38	S5 AND RECEPTOR?
S7	38	S6 NOT S4

?t s7/9/10 12 15 16

updated  
6/01/01

7/9/10 (Item 1 from file: 65)  
DIALOG(R)File 65:Inside Conferences  
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01010365 INSIDE CONFERENCE ITEM ID: CN009878294

**Insights into the role of the hydrogen bond and hydrophobic effect on recognition in molecularly imprinted polymer synthetic peptide receptor mimics**

Nicholls, I. A.; Ramstroem, O.; Mosbach, K.  
CONFERENCE: Column liquid chromatography-18th International symposium  
JOURNAL OF CHROMATOGRAPHY A, 1995; VOL 691; NUMBER 1//2 P: 349-353  
Elsevier, 1995  
ISSN: NONE-XXXX  
LANGUAGE: English DOCUMENT TYPE: Conference Selected papers  
CONFERENCE EDITOR(S): Bowers, L. D.  
CONFERENCE LOCATION: Minneapolis, MN  
CONFERENCE DATE: May 1994 (199405) (199405)

BRITISH LIBRARY ITEM LOCATION: 4958.350200

NOTE:

In 2 pts; Also known as HPLC '94  
DESCRIPTORS: column liquid chromatography; liquid chromatography; HPLC

7/9/12 (Item 2 from file: 73)  
DIALOG(R)File 73:EMBASE  
(c) 2001 Elsevier Science B.V. All rts. reserv.

06613468 EMBASE No: 1996278244

**Recognition in molecularly imprinted polymer alphainf 2-adrenoreceptor mimics**

Berglund J.; Nicholls I.A.; Lindbladh C.; Mosbach K.  
Department Pure/Applied Biochemistry, University of Lund, P.O. Box  
124,S-221 00 Lund Sweden  
Bioorganic and Medicinal Chemistry Letters ( BIOORG. MED. CHEM. LETT. ) ( United Kingdom) 1996, 6/18 (2237-2242)  
CODEN: BMCLE ISSN: 0960-894X  
DOCUMENT TYPE: Journal; Article  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

**Molecularly imprinted polymers (MIPs) selective for the alphainf 2-adrenoceptor antagonist yohimbine (1) have been prepared and studied as alphainf 2-adrenoreceptor mimics. Marked ligand stereoselectivity was demonstrated in radioligand binding and HPLC studies upon comparison to blank and corynanthine (2) MIPs. K(D) values in the nanomolar range have been shown for anti-1 MIP prepared in chloroform solutions upon rebinding in organic media.**

DRUG DESCRIPTORS:

\*alpha 2 adrenergic **receptor** --endogenous compound--ec; \*corynanthine --pharmacology--pd; \*corynanthine--drug comparison--cm; \*polymer--drug analysis--an; \*polymer--drug development--dv; \*yohimbine--pharmacology--pd; \*yohimbine--drug comparison--cm